A C K N O W L E D G E M E N T S

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ACKNOWLEDGEMENTS

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APPENDIX A: SURVEY INSTRUMENT

EXECUTIVE SUMMARY

The Washington State Department of Transportation (WSDOT) conducted a survey to determine public demand for four alternate transportation options that could be used during the six- to eight-week closure of the Hood Canal Bridge in 2006. Approximately 22,178 surveys were mailed to bridge users and an on-line survey was posted on WSDOT's webpage.

To determine commuters' preferred transportation facilities and services, the survey asked bridge users about their potential use of the following four transportation alternatives:

- Option 1: Hood Canal Passenger-Only Ferry
- Option 2: Port Townsend/Seattle Passenger-Only Ferry
- Option 3: Port Townsend/Edmonds or Port Townsend/Kingston Vehicle Ferry
- Option 4: Drive around Hood Canal

A total of 3,680 surveys were completed. The mail-in survey response rate was 14 percent. The sample size yields a confidence rate of 95% plus or minus 1.5%. Where statistically feasible and useful, survey findings were compared against ECONorthwest's 1998 Hood Canal Travel Pattern Survey results. Survey analysis identified the following key findings:

- Respondents' preferred transportation option is the Port Townsend/Edmonds or Port Townsend/Kingston vehicle ferry. Fifty-eight percent of respondents reported that they would use this option 1 to 3 times a week. The second most preferred transportation option was driving around Hood Canal. Forty-one percent of respondents reported that they would use this option 1 to 3 times a week.
- The ability to take private vehicles on trips was the number one determinant for respondents in choosing their preferred transportation option.
- The primary reasons for using the bridge are for discretionary and leisure-related trips (shopping, social activities and tourism/recreation). Given the discretionary nature of this travel, this group has more flexibility to accommodate the bridge closure through such things as trip scheduling to take advantage of off-peak travel times, trip postponement to avoid travel during bridge closure and combining trips to reduce trip frequency.
- Trip patterns have remained relatively unchanged since the ECONorthwest survey. The majority of weekend and weekday bridge users come from the communities of Port Townsend, Port Angeles, Port Ludlow and Sequim (59%). Silverdale and Seattle are the two principal trip destinations for both weekday and weekend bridge users (39%).
- Over twenty percent of bridge users use the bridge for essential medical appointments 2 or more times a month, with almost 2% of this group using the bridge for daily appointments. Ensuring adequate alternative transportation services for this group should be a priority.
- Effective and strategic expansion of existing transit services and rideshare programs to accommodate the increased demand resulting from the bridge closure may offer a significant opportunity to permanently increase transit ridership and vehicle occupancy.

INTRODUCTION

The following section introduces the Hood Canal Bridge Closure survey and provides an overview of its purpose, methodology, and administration. Descriptions of the survey instrument and an outline of the survey report also is provided.

Survey Purpose

The Washington State Department of Transportation (WSDOT) mailed 22,178 surveys to Hood Canal Bridge users to determine what transportation facilities and services commuters will use when the bridge is closed for reconstruction in 2006. Bridge users who did not receive a survey in the mail were able to complete the survey by visiting the WSDOT web page, www.wsdot.wa.gov.

The survey was designed to assist WSDOT in planning adequate parking facilities and support services for the ferry options.

The four transportation alternatives presented in the survey were:

- Option 1: Hood Canal Passenger-Only Ferry
- Option 2: Port Townsend/Seattle Passenger-Only Ferry
- Option 3: Port Townsend/Edmonds or Port Townsend/Kingston Vehicle Ferry
- Option 4: Drive around Hood Canal

The bridge closure is necessary to replace the eastern half of the Hood Canal Bridge which is nearing the end of its structural life. Accelerating deterioration, draw span unreliability, the severe marine climate, and a need to bring the bridge up to design standards make its replacement a high priority for WSDOT. Reconstruction of the eastern half will begin in 2003 and be completed in 2006. The bridge will remain open through most phases of construction, but there will be a six- to eight-week closure in spring 2006. The exact closure schedule will be widely publicized when it is confirmed.

The Hood Canal Bridge is the only direct transportation link between the Northern Olympic Peninsula and the Kitsap Peninsula and the central Puget Sound, and is critical to the region's economic, life-safety and general transportation needs.

Survey Instrument

Project consultant, Moore lacofano Goltsman, Inc. (MIG), developed the questions for the Hood Canal Bridge closure survey with input and guidance from WSDOT staff and a team of project consultants. The draft survey questions were field tested at the Kingston ferry terminal in early June 2001, and finalized later in that month. In late June, approximately 22,178 copies of the survey were mailed to bridge users using WSDOT's Hood Canal Bridge license plate survey compiled in 1998 and a project mailing list. An on-line version also was posted on WSDOT's webpage. Both the mailer and on-line survey were advertised on the local traffic advisory radio station, in regional newspapers and on traffic reader boards located on the bridge itself. A flyer also was used to publicize the survey and was distributed on Washington State ferries and in area government offices.

The survey instrument was organized into five sections. A review of the survey sections begins on the next page.

User Profile

In the first section of the survey, respondents were asked several questions regarding their current use of the bridge. Respondents indicated: whether or not they generally use the bridge in April, May and June (the estimated time of bridge closure); the number of round trips they make per week during these months; the number of people generally in their vehicle when crossing the bridge; the type of vehicle used when crossing the bridge; their trip starting and end points for both weekday and weekend travel; the number of round trips made per week for work, school, social activities, recreation, business, commercial delivery and shopping purposes; whether or not they used the bridge for essential medical appointments; the frequency of essential medical trips; their destination for essential medical appointments; and finally, their ability to reschedule essential medical appointments during the spring 2006 closure.

Transportation Alternatives

In the survey's second section, respondents reviewed descriptions of the four transportation options proposed for use during the six- to eight-week closure of the Hood Canal Bridge. The descriptions of these options are provided below:

Option 1: Passenger-only Ferry across the Hood Canal in the vicinity of the Hood Canal Bridge: A passenger-only ferry would be provided and transportation options to the ferry site would be enhanced. Lighted, secure parking lots would provide 24 hour parking 7 days a week on the east and west sides of the canal. A shuttle bus would be used to transport passengers from the parking lots to the ferry terminal. Existing transit service would be enhanced. The ferry service would have a nominal fee or be free of charge. About ½ hour will be required for the ferry crossing. However, it is anticipated that parking and using the shuttle and ferry could add a minimum of 1 hour additional travel time to existing commute times across Hood Canal. Service would be provided twice per hour during peak crossing periods.

Option 2: Passenger-only Ferry from Port Townsend to Seattle: Lighted, secure parking lots would be provided in the Port Townsend area. A shuttle bus would be used to transport passengers from the parking lots to the ferry terminal. A nominal fare similar to the Bremerton-Seattle passenger-only ferry is anticipated. Travel time for this option would be about 2 hours. This may be the most efficient option for commuters whose destination is the Seattle area, but passenger capacity would be limited. Service will be provided every 2 to 4 hours.

Option 3: Vehicle Ferry between Port Townsend and Edmonds or Kingston: This option would serve foot passengers, drivers and vehicle passengers with their vehicles. It is the only ferry option that would serve vehicles. Because of anticipated demand, vehicle service will likely be by reservation only with little or no stand-by service. For foot passengers, no advance reservations would be required. Lighted, secure parking lots would be provided in the Port Townsend and Edmonds areas. A shuttle bus would be used to transport walk-on passengers from the parking lots to the ferry terminal. Fares for foot passengers and vehicles are anticipated to be similar to the Bremerton-Seattle ferry. Travel time for this option would be about 1-1/2 hours. Service would be provided approximately every 4 hours.

Option 4: Driving around the Hood Canal: Commuters and other travelers would use Highways 101 and 3 to drive around Hood Canal. Travel time for this option may be 2 to 5 hours or more depending upon the driver's starting point, destination, the time of day, and increased traffic congestion due to bridge closure.

After reviewing the transportation alternatives, respondents indicated the average number of round trips per week they would make using these alternatives during Hood Canal Bridge closure, and

rated the importance key factors (travel time, cost, transit accessibility, etc.) in determining their choice of transportation options.

Passenger and Vehicle Ferry Alternatives

In the survey's third section, respondents answered questions regarding their potential use of the passenger or vehicle ferry alternatives (Options 1 though 3). Respondents indicated how they would travel to the ferry terminal, and whether or not they would take their automobiles with them on the vehicle ferry option.

Driving Around Hood Canal

In the survey's fourth section, respondents indicated whether they would drive around Hood Canal (Option 4) during bridge closure. The section asked 4 questions regarding the days of the week respondents would drive around Hood Canal, and the time of day they would generally begin their initial trip and begin their return trip.

Special Needs

The survey's fifth section, respondents indicated whether or not they had any special needs that would have to be accommodated by planning temporary services and facilities during the Hood Canal Bridge closure.

Survey Methodology and Administration

A total of 3,680 completed surveys were returned. This number includes 730 surveys that were completed on-line. The mail-in survey response rate was 14%. The sample size of 3,680 yields a confidence rate of 95% plus or minus 1.5% or better. The confidence rate was calculated using the WSDOT/ECONorthwest averaged weekday/weekend daily bridge user population of 16,837.

Survey Analysis and Report Organization

Section 2 presents a summary of major findings, including the respondents' preferred transportation option, principal commuter destinations, main travel times, the most widely used types of transportation and an analysis of the survey's major alternative transportation marketing implications. Where statistically feasible and useful, survey findings were compared against findings from a 1998 ECONorthwest Hood Canal Travel Pattern Survey. Section 3 provides an analysis of each question in the survey instrument. The survey instrument itself is provided in Appendix A.

MAJOR FINDINGS

The following section presents a summary of the survey's major findings, including respondents' preferred transportation option, the major determining factors respondents used to select their preferred transportation option, major trip purposes (including essential medical appointments), principal trip start and end points, and the major travel times respondents would use for the two preferred transportation options. This analysis includes implications for pulbic information and marketing of alternatives that will be used during bridge closure. Section 3, Survey Results, provides a question-by-question analysis of the survey.

Preferred Transportation Alternative

Survey respondents' top two preferred transportation alternatives were:

- Option 3 Port Townsend/Edmonds or Port Townsend/Kingston Vehicle Ferry: 69%
- Option 4 Drive Around Hood Canal: 46%

Neither passenger-only ferry options scored very highly. Fewer than one third of respondents indicated that they would make more than one trip a month using the passenger-only ferry options.

Determining Factors

The following factors were most important in determining the survey respondents choice of transportation options during bridge closure:

- Ability to take car on the ferry: 62%
- Travel time: 54%

The desire to travel in private vehicles resulted in the selection of Option 4, Driving Around Hood Canal, as the second most preferred transportation option despite its lengthy associated travel times (between 2 and 5 hours one way depending upon trip start point, destination and traffic volumes).

Major Trip Purposes

The two primary reasons for using the Hood Canal Bridge at least once a week were:

Shopping: 71%Social Activity: 70%

When combined, the discretionary activities of shopping, social activity, and tourism/recreation, are the primary reason that respondents use the Hood Canal Bridge at least once a week (68%). The large percentage of discretionary tips may be one reason why Option 4, Driving Around Hood Canal, was frequently selected as the transportation alternative that respondents would use during bridge closure. Discretionary trips are less time sensitive than appointments and work-related trips. To manage and reduce transportation demand, WSDOT could focus on discretionary trips in public information and marketing efforts. Individuals making discretionary trips have greater flexibility during bridge closure to reschedule trips to take advantage of off-peak travel time, postpone trips during bridge closure or combine several trips, such as social activities and shopping, to reduce overall number of trips.

Essential Medical Appointments

Over 20% of respondents use the Hood Canal Bridge at least twice a month for essential medical appointments. Of this group, 2% use the bridge daily for essential medical appointments. Bridge closure will pose significant problems for those requiring daily medical attention. This critical group should be identified and suitable alternative transportation should be in place prior to bridge closure. Depending on the individual's trip starting point and the frequency of appointment, temporary relocation of the patient could be encouraged. WSDOT could consider the implementation of daily medical services shuttle that could be funded and staffed in partnership with regional health providers.

Travel Times

Respondents' travel days were divided evenly across the week for both ferry and automobile options. Friday, Saturday and Sunday are slightly busier travel days overall perhaps because more leisure and discretionary trips are made on weekends. The "rush hour" for start time and return trips tended to be earlier for those driving around the Hood Canal than those using the ferry options. This may be reflective of the longer travel time associated with driving around the Hood Canal.

Ferry Trip Start Time

	Weekday Travel	Weekend Travel	
	Base = 2656	Base = 2517	
4am to 6am	12.2%	3.1%	
6am to 9am	36.5%	30.2%	
9am to 12pm	37.5%	53.7%	
3pm to 6pm	4.1%	7.5%	

Ferry Return Trip Time

	Weekday Travel	Weekend Travel	
	Base = 2589	Base = 2543	
3pm to 6pm	48.6%	30.0%	
6pm to 9pm	22.7%	38.6%	
9pm to midnight	6.1%	14.3%	

Option 4: Drive Around Hood Canal Trip Start Time

	Weekday Travel	Weekend Travel	
	Base = 1477	Base = 1415	
4am to 6am	14.5%	5.2%	
6am to 9am	42.4%	42.1%	
9am to 12pm	30.6%	40.8%	

Option 4: Drive Around Hood Canal Return Trip Time

	Weekday Travel	Weekend Travel	
	Base = 1420	Base = 1421	
12pm to 3pm	14.7%	13.3%	
3pm to 6pm	43.6%	35.1%	
6pm to 9pm	24.2%	29.0%	

Key Trip Starting Points and Destinations

The major trip starting points and trip destinations for both weekday and weekend travel are identified in the tables below. General trip patterns have remained unchanged since ECONorthwest's 1998 bridge user survey.

Principal Trip Starting Points

	Weekday Travel	Weekend Travel	
	Base = 3393	Base = 3123	
Port Ludlow	18.2%	18.0%	
Port Townsend	15.5%	14.8%	
Sequim	14.9%	13.9%	
Port Angeles	11.3%	11.4%	

Principal Trip Destinations

	Weekday Travel	Weekend Travel	
	Base = 3021	Base = 2859	
Silverdale	21.8%	20.1%	
Seattle	17.2%	18.6%	

Transportation Option Pricing

Over 40% of respondents ranked cost as a neutral or not important consideration in determining their choice of transportation option. The finding would suggest that WSDOT has some flexibility in pricing the transportation alternatives, provided that the option allows users to take along a private vehicle.

Implications for Public Information and Marketing

The temporary closure of the Hood Canal Bridge poses a major transportation demand management challenge for WSDOT. Not only must appropriate alternative transportation facilities and services be developed, but public information and marketing must be provided to ensure alternatives are efficiently and effectively used. An effective public information and marketing strategy will not only help minimize inconveniences for the traveling public during bridge closure, but it will also help minimize negative public response to the project.

Survey analysis indicates that the following strategies may be effective in managing transportation demand during bridge closure:

Highlight Alternative Work Strategies: Of the respondents who use the bridge primarily for work-related purposes, 27% use the bridge 3 times or less per week. This group may have more flexibility in rearranging their work schedules to travel during off-peak hours and/or take advantage of telecommuting and other flex-work alternatives during bridge closure. WSDOT public information and marketing activities should highlight the use of electronic communications and telecommuting as strategies that could be used by bridge users during the closure. Marketing materials also could suggest scheduling longer business trips or vacations to coincide with bridge closure to help minimize trip frequency.

Highlight and Optimize Public Transit: Almost 40% or respondents ranked transit access to the ferry terminal as a very important or important determinant in their choice of transportation options. The statistic indicates that the Hood Canal Bridge closure could present an opportunity to permanently increase transit ridership. The closure will likely result in many bridge users using public transit options to make one or more trips. For many, this could be their first experience using public

transit. To increase permanent ridership it is imperative to make this first experience is a positive one. WSDOT could work with regional transit providers to ensure that terminal connections, schedules and travel times are optimized. With improvements, public transit also could be marketed as the fastest, most efficient and least costly transportation alternative during bridge closure. Appropriate park and ride facilities could also be developed to accommodate increased transit users.

Partner with Regional Health Care Authorities and Providers: Since over 20% of bridge users make more than 2 trips per month for essential medical appointments, WSDOT should work with regional health care providers to publicize bridge closure. WSDOT also could consider establishing a daily medical appointment shuttle service to be operated in partnership with regional health care providers.

Promote Carpooling and Vanpooling: Vehicle occupancy on the Hood Canal Bridge has increased significantly over the past three years. The number of single occupant vehicles decreased by almost 20%. This decrease in single occupant vehicles may indicate that WSDOT and its regional transportation marketing partners have been successful in marketing rideshare programs. The Hood Canal Bridge closure could present an opportunity to further increase vehicle occupancy. Ridesharing could be actively promoted and marketed by WSDOT and partner agencies. If the Hood Canal passenger-only ferry option is implemented, WSDOT could consider working with transportation partners to establish vanpools at the western ferry terminal. Depending on demand, the vanpools could be continued after the bridgeis repaired.

Target Discretionary and Leisure-Related Travelers: Discretionary travelers make up the single largest bridge user group. Unlike frequent bridge users (those making 4+ trips per week), discretionary travelers may have greater flexibility to accommodate bridge closure if properly advised. Trip combining, off-peak travel and trip postponement could be promoted to this group. WSDOT also couldwork with regional hotels and motels to offer discounted accommodation for bridge users during the closure period. Low cost overnight stays may permit easier trip combining and reduce overall trip frequency. Such a discount may be possible only if bridge closure coincides with the low tourist travel season.

Ensure Broad-based Public Awareness: A large number of respondents use the bridge for purposes other than those listed in the survey. The significant size of this group and the corresponding lack of information regarding the purpose of their trips underscores the importance of conducting a broad-based public awareness program to ensure that the widest number of bridge users are advised of the closure and are aware of the available alternative travel options. WSDOT public awareness efforts should take advantage of all regional media (print, radio and tele vision). Project updates and information flyers should be posted on Washington State Ferries and mailed to households and businesses in the region. WSDOT must also make a special effort to notify and advise regional commercial freight haulers and other delivery businesses to make alternative travel arrangements.

SURVEY RESULTS

The following section provides question by question analysis of the Hood Canal Bridge Closure survey. Where both statistically feasible and useful, survey results are compared to the 1998 ECONorthwest Hood Canal Travel Pattern Survey findings.

User Profile Questions

Question 1: Do you generally use the Hood Canal Bridge during April, May and June?

	TOTAL	
Base	3,948	
Yes	3,766	
	95.40%	
No	182	
	4.60%	

This question's high positive response rate reflects the fact that the survey was targeted to existing bridge users. The survey mailing list was based a 1998 ECONorthwest survey of bridge users and a WSDOT-maintained project mailing list.

Question 2: About how many round trips per week do you generally take on the Hood Canal Bridge during April, May and June?

	TOTAL
Base	3,918
0	324
	8.3%
1-3	2,277
	58.1%
4-5	553
	14.1%
6-7	294
	7.5%
8-9	97
	2.5%
More than 10	373
	9.5%

With 66.4% of bridge users making only 0 to 3 trips per week, the response underscores the major finding that discretionary and leisure uses (social activity, tourism/recreation, and shopping) are the primary trip purpose (see Questions 11, 12 and 15). The responses correlate within +/- 2% of ECONorthwest's findings on bridge trip frequency.

Question 3. Including yourself, how many people generally are in your vehicle when using the bridge?

	TOTAL
Base	3,902
1	1,071
	27.4%
2	2,140
	54.8%
3	353
	9.0%
4	250
	6.4%
5	43
	1.1%
6	18
	0.5%
7	7
	0.2%
More than 7	20
	0.5%

Comparing the results of this question to an identical question in the ECONorthwest survey indicate a statistically significant change in bridge user travel behavior. In comparison to 1998, 18% fewer people drive across the bridge alone, 17% more people drive across the bridge with two people in their vehicle, 2% more people drive with three people in their vehicle, and 4% more people drive across the bridge with four or more people in their vehicle. The increase in carpooling (2 - 4 people per vehicle) and vanpooling (5+ people per vehicle) indicate that WSDOT and its partners have had success in alternative transportation marketing and program development. The findings also suggest that WSDOT could use the bridge closure to leverage further increases in car/van pooling and transit use if appropriate programs and strategies are developed.

Question 4: Please identify the type of vehicle you generally drive when crossing the bridge.

	TOTAL
Base	3,843
Personal automobile,	3,592
passenger van or pick up	93.5%
Motorcycle	28
	0.8%
Car pool or van pool	33
	0.9%
Transit bus or tour bus	10
	0.3%
Recreational vehicle	49
	1.3%
Commercial vehicle - van	63
	1.6%
Commercial vehicle -	51
semi-truck	1.3%
Other	17
	0.4%

Automobiles, passenger vans and pick-up trucks make the vast majority of trips across the bridge. However, survey respondents may not adequately represent commercial users. More outreach is needed to identify and advise commercial users.

Questions 5-8: Questions 5-8 asked bridge users to identify the city/town/region closest to where they generally began and ended their weekend and weekday travel. Analysis of these questions indicated that the majority of both weekday and weekend traffic (59%) originates in the Port Townsend, Port Ludlow, Sequim and Port Angeles areas. The principal destinations for both weekday and weekend travel (39%) is Seattle and Silverdale. The responses for questions 5 to 8 correspond within +/- 5% of the ECONorthwest survey findings which indicates that general travel trip patterns remain relatively unchanged. Data tables follow.

Weekday Trip Start

	TOTAL	%
Base	3,640	
Bainbridge Island	60	1.6%
Bellevue	29	0.8%
Bellingham	8	0.2%
Bremerton	134	3.7%
Chimacum	143	3.9%
Everett	26	0.7%
Gig Harbor	18	0.5%
Kent	22	0.6%
Kingston	94	2.6%
Kirkland	16	0.4%
Poulsbo	166	4.6%
Port Angeles	411	11.3%
Port Hadlock	172	4.7%
Port Ludlow	663	18.2%
Port Townsend	563	15.5%
Port Orchard	52	1.4%
Quilcene	177	4.9%
Renton	13	0.4%
Seattle	138	3.8%
Silverdale	88	2.4%
Spokane	3	0.1%
Sequim	541	14.9%
Tacoma	87	2.4%
E. Washington	7	0.2%
Out of State	9	0.3%

Weekend Trip Start

	TOTAL	%
Base	3,345	
Bainbridge Island	61	1.8%
Bellevue	31	0.9%
Bellingham	7	0.2%
Bremerton	123	3.7%
Chimacum	123	3.7%
Everett	31	1.0%
Gig Harbor	17	0.5%
Kent	20	0.6%
Kingston	87	2.6%
Kirkland	27	0.8%
Poulsbo	155	4.6%
Port Angeles	382	11.4%
Port Hadlock	162	4.8%
Port Ludlow	602	18.0%
Port Townsend	496	14.8%
Port Orchard	50	1.5%
Quilcene	156	4.7%
Renton	17	0.5%
Seattle	158	4.7%
Silverdale	83	2.5%
Spokane	2	0.1%
Sequim	464	13.9%
Tacoma	79	2.4%
E. Washington	9	0.3%
Out of State	3	0.1%

Weekday Trip End

Weekday IIIp Ella		
	TOTAL	%
Base	3,226	
Bainbridge Island	77	2.4%
Bellevue	56	1.7%
Bellingham	6	0.2%
Bremerton	205	6.4%
Chimacum	50	1.5%
Everett	61	1.9%
Gig Harbor	12	0.4%
Kent	15	0.5%
Kingston	92	2.9%
Kirkland	30	0.9%
Poulsbo	212	6.6%
Port Angeles	200	6.2%
Port Hadlock	57	1.8%
Port Ludlow	156	4.8%
Port Townsend	271	8.4%
Port Orchard	32	1.0%
Quilcene	105	3.3%
Renton	21	0.7%
Seattle	555	17.2%
Silverdale	704	21.8%
Spokane	2	0.1%
Sequim	184	5.7%
Tacoma	109	3.4%
E. Washington	6	0.2%
Out of State	8	0.3%

Weekend Trip End

	TOTAL	%
Base	3,056	
Bainbridge Island	76	2.5%
Bellevue	53	1.7%
Bellingham	15	0.5%
Bremerton	113	3.7%
Chimacum	34	1.1%
Everett	53	1.7%
Gig Harbor	18	0.6%
Kent	18	0.6%
Kingston	76	2.5%
Kirkland	33	1.1%
Poulsbo	163	5.3%
Port Angeles	222	7.3%
Port Hadlock	51	1.7%
Port Ludlow	132	4.3%
Port Townsend	274	9.0%
Port Orchard	32	1.0%
Quilcene	117	3.8%
Renton	21	0.7%
Seattle	569	18.6%
Silverdale	614	20.1%
Spokane	3	0.1%
Sequim	188	6.2%
Tacoma	130	4.3%
E. Washington	25	0.8%
Out of State	26	0.9%

Question 9: Estimate the number of round trips per week you make across the Hood Canal Bridge for WORK.

	TOTAL
Base	2,354
None	976
	41.5%
1-3 times a week	641
	27.2%
4-5 times a week	466
	19.8%
6-7 times a week	134
	5.7%
8-9 times a week	30
	1.3%
More than 10	107
	4.5%

Approximately 31% of respondents use the bridge for work 4 times a week a more. This core commuter group represents a key transportation marketing challenge for WSDOT. This group is dependent on the bridge for timely and convenient commuting and their opposition to any perceived inconvenience could be correspondingly significant. The remaining 68% who use the bridge for work 3 times or less per week may have more flexibility in rearranging their work schedules to travel during off-peak hours and/or take advantage of telecommuting and other flex-work alternatives during bridge closure.

Question 10: Estimate the number of round trips per week you make across the Hood Canal Bridge for SCHOOL or COLLEGE.

	TOTAL
Base	1,591
None	1,465
	92.1%
1-3 times a week	94
	5.9%
4-5 times a week	19
	1.2%
6-7 times a week	7
	0.5%
8-9 times a week	1
	0.1%
More than 10	5
	0.3%

School or college trips were the lowest ranked trip purpose with less than 8% of respondents using the bridge for this purpose. Depending upon the final construction schedule, school-related travel disruptions could be further minimized and/or eliminated if construction coincides with term breaks or summer vacations. Some students also may be able to take advantage of distance education and correspondence opportunities during bridge closure.

Question 11: Estimate the number of round trips per week you make across the Hood Canal Bridge for SOCIAL ACTIVITY.

	TOTAL
Base	2,348
None	708
	30.2%
1-3 times a week	1,494
	63.6%
4-5 times a week	110
	4.7%
6-7 times a week	25
	1.1%
8-9 times a week	3
	0.1%
More than 10	8
	0.4%

Along with tourism/recreation and shopping, social activity is one of the major reasons why respondents use the bridge. Because these trips are discretionary, this bridge user group may have more flexibility to reschedule trips to take advantage of off-peak travel times, combine trips to reduce trip frequencies and postpone trips during bridge closure. Marketing to discretionary bridge users to take advantage of off-peak travel times, carpool, group trips (e.g., combine social activities with shopping and recreation trips) and postpone travel during bridge closure should be a key component of WSDOT's public information and marketing strategy.

Question 12: Estimate the number of round trips per week you make across the Hood Canal Bridge for TOURISM/RECREATION.

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	TOTAL
Base	2,170
None	800
	36.9%
1-3 times a week	1,297
	59.8%
4-5 times a week	53
	2.4%
6-7 times a week	8
	0.4%
8-9 times a week	9
	0.4%
More than 10	3
	0.1%

Along with social activity and shopping, tourism/recreation is one of the major reasons why respondents use the bridge. Because these trips are discretionary, this bridge user group may have more flexibility to reschedule trips to take advantage of off-peak travel times, combine trips to reduce trip frequencies and postpone trips during bridge closure. Marketing to discretionary bridge users to take advantage of off-peak travel times, carpool, group trips (e.g., combine social activities with shopping and recreation trips) and postpone travel during bridge closure should be a key component of WSDOT's public information and marketing strategy.

Question 13: Estimate the number of round trips per week you make across the Hood Canal Bridge for PERSONAL or BUSINESS APPOINTMENTS.

	TOTAL
Base	2,267
None	769
	33.9%
1-3 times a week	1,333
	58.8%
4-5 times a week	115
	5.1%
6-7 times a week	25
	1.1%
8-9 times a week	10
	0.4%
More than 10	15
	0.7%

Nearly 60% of respondents indicated that they make only between 1 and 3 personal or business trips across the bridge per week. The low volume of trips may permit this group greater flexibility in arranging alternate transportation options, postponing trips and reducing trip frequencies during bridge closure. Trip frequencies could be reduced by promoting trip grouping and alternative business/personal communications (e.g., web conferencing, e-mail, phone, etc.). This group may also have greater flexibility to arrange trips to coincide with off-peak travel hour. WSDOT's public information and marketing strategy should highlight the use of electronic communications during bridge closure to reduce transportation demand.

Question 14: Estimate the number of round trips per week you make across the Hood Canal Bridge for COMMERCIAL DELIVERY.

	TOTAL
Base	1,539
None	1,376
	89.4%
1-3 times a week	82
	5.3%
4-5 times a week	22
	1.4%
6-7 times a week	15
	1.0%
8-9 times a week	2
	0.1%
More than 10	42
	2.7%

Only 10% of respondents reported using the bridge for commercial delivery purposes. This does not reflect the Hood Canal Bridge's status as a major commercial travel route between Puget Sound and Olympic Peninsula communities. The relatively low percentage reflects the fact that the survey was targeted towards non-commercial bridge users. WSDOT should contact and advise major regional truck transportation companies well in advance of bridge closure to ensure that alternative routings, schedules and delivery logistics can be arranged.

Question 15: Estimate the number of round trips per week you make across the Hood Canal Bridge for SHOPPING.

	TOTAL
Base	2,410
None	692
	28.7%
1-3 times a week	1,592
	66.1%
4-5 times a week	91
	3.8%
6-7 times a week	21
	0.9%
8-9 times a week	8
	0.3%
More than 10	6
	0.3%

Along with tourism/recreation and social activity, shopping is one of the major reasons why respondents use the bridge. Because these trips are discretionary, this bridge user group may have more flexibility to reschedule trips to take advantage of off-peak travel times, combine trips to reduce trip frequencies and postpone trips during bridge closure. Marketing to discretionary bridge users to take advantage of off-peak travel times, carpool, group trips (e.g., combine social activities with shopping and recreation trips) and postpone travel during bridge closure should be a key component of WSDOT's public information and transportation marketing strategy.

Question 16: Estimate the number of round trips per week you make across the Hood Canal Bridge for OTHER PURPOSES.

	TOTAL
Base	1,671
None	1,055
	63.1%
1-3 times a week	570
	34.1%
4-5 times a week	33
	2.0%
6-7 times a week	8
	0.5%
8-9 times a week	5
	0.3%
More than 10	0
	0.0%

A large number of travellers use the bridge for purposes other than those listed in the survey. The significant size of this group and the corresponding lack of information regarding their transportation needs underscores the importance of conducting a broad-based public awareness program to ensure that these users are advised of the bridge closure and are aware of the alternative travel options available.

Question 17: Do you ever use the Hood Canal Bridge to travel to an essential medical appointment?

	TOTAL
Base	3,874
Yes	2,089
	53.9%
No	1,785
	46.1%

Given the high number of positive responses to this question, it is likely that some respondents may have identified routine and/or non-essential medical appointments (e.g., check-ups) as essential medical appointments.

Question 18: How frequently do you use the Hood Canal Bridge to travel to an essential medical appointment?

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	TOTAL
Base	2,163
Daily	34
	1.6%
Weekly	123
	5.7%
2 or 3 times a month	340
	15.7%
Monthly	457
	21.1%
Less than once a month	1209
	55.9%

Twenty-three percent of respondents use the bridge for essential medical appointments at least twice a month. Almost two percent use the bridge for daily essential medical appointments. WSDOT should work to further identify this important group of bridge users in partnership with regional medical providers to ensure that adequate transportation alternatives are in place prior to bridge closure. Depending on the transportation alternative implemented and the location of the patient, some individuals requiring daily essential medical treatment could consider temporarily relocating during bridge closure.

Question 19: When you use the Hood Canal Bridge to travel to an essential medical appointment, what city/town is closest to your destination?

	TOTAL
Base	2,072
Bremerton	796
	38.4%
Seattle	901
	43.5%
Tacoma	78
	3.8%
Other	597
	14.3%

Hospitals and clinics in Bremerton and Seattle are the major destination for bridge users with essential medical appointments. WSDOT should ensure that health care providers in these areas are notified about bridge closure and should work with providers to arrange transportation and/or health care alternatives.

Question 20: Would you be able to reschedule medical appointments to avoid using the Hood Canal Bridge during the spring 2006 closure?

	TOTAL
Base	2,143
Yes	582
	27.2%
No	494
	23.1%
Maybe/Don't know/	1,067
no answer	49.8%

The percentage of respondents (23%) who are unable to reschedule essential appointments corresponds with the number of respondents who use the bridge twice a month or more for essential medical appointments. This represents an important bridge user group for whom bridge closure will pose significant challenges. WSDOT must work to minimize the inconvenience for this group and could consider establishing a medical services shuttle in partnership with health care providers in the Seattle and Bremerton areas during bridge closure.

Transportation Alternatives Questions

Question 21: Option 1 - Hood Canal Passenger-Only Ferry

	TOTAL
Base	2,943
None	2,094
	71.2%
1-3 times a week	479
	16.3%
4-5 times a week	218
	7.4%
6-7 times a week	86
	2.9%
8-9 times a week	18
	0.6%
More than 10	48
	1.6%

Less than one third of respondents (28.8%) would use this option, and only 12.5% indicated that they would use it regularly (4+ times per week). The Hood Canal passenger-only ferry option did score higher than the Port Townsend-Seattle passenger-only ferry option for regular users (4+ times per week). This may indicate that more daily commuters live in the immediate vicinity of the Hood Canal Bridge than in the Port Townsend and Port Angeles areas.

Question 22: Option 2 - Port Townsend/Seattle Passenger-Only Ferry.

	TOTAL
Base	3,074
None	2,194
	71.4%
1-3 times a week	783
	25.5%
4-5 times a week	66
	2.1%
6-7 times a week	17
	0.6%
8-9 times a week	9
	0.3%
More than 10	5
	0.2%

As with the Hood Canal passenger-only ferry option, less than one third of respondents (28.7%) would use the Port Townsend/Seattle passenger-only option. Only 3.2% of respondents indicated that they would use this option regularly (4+ times a week). The percentage of regular users is almost 10% lower than those who would use Option 1 regularly. This may indicate that more daily commuters live in the immediate vicinity of the Hood Canal Bridge than in the Port Townsend and Port Angeles areas.

Question 23: Option 3 - Port Townsend/Edmonds or Port Townsend/Kingston Vehicle Ferry

Option 3 - Fort Townscha/Lame	
	TOTAL
Base	3,462
None	1,076
	31.1%
1-3 times a week	1,997
	57.7%
4-5 times a week	260
	7.5%
6-7 times a week	76
	2.2%
8-9 times a week	17
	0.5%
More than 10	36
	1.0%

This was the survey respondents' preferred transportation option with 68.9% indicating that they would use this option at least once a week. The findings underscore the value bridge users place on being able to take their vehicles with them for all trip purposes. Question 29 identifies the ability to take vehicles on trips as the primary reason for selecting a preferred transportation alternative during bridge closure.

Question 24: Option 4 - Drive Around Hood Canal

	TOTAL
Base	3,218
None	1,741
	54.1%
1-3 times a week	1,326
	41.2%
4-5 times a week	82
	2.5%
6-7 times a week	29
	0.9%
8-9 times a week	14
	0.4%
More than 10	26
	0.8%

Driving around Hood Canal was the second most preferred transportation option after Option 3. Almost 46% of respondents indicated that they would make at least one driving trip around Hood Canal per week. Only 4.6% would drive around Hood Canal regularly (4+ times a week). The extra drive time required to drive around Hood Canal (2 to 5 hours depending on start point, destination and traffic volumes) naturally limits greater regular use of this option. As traffic volumes will increase on Highways 101 and 3 during bridge closure regardless of additional ferry options provided, WSDOT should promote off-peak trip scheduling to minimize peak travel time road congestion.

Question 25: On a scale of 1 to 5, with 1 being very important and 5 being not important, please rate the importance of TRAVEL TIME in determining your choice of transportation options during bridge closure.

	TOTAL
Base	3,733
1 (very important)	2,016
	54.0%
2	756
	20.3%
3	600
	16.1%
4	178
	4.8%
5 (not important)	183
	4.9%

Almost 75% of respondents ranked travel time as very important or important in determining their choice of transportation option. Travel time was the second highest rated determinant behind the ability to take one's car on the ferry. This may indicate that some respondents associate efficient travel time with the use of private vehicles.

Question 26: On a scale of 1 to 5, with 1 being very important and 5 being not important, please rate the importance of COST in determining your choice of transportation options during bridge closure.

	TOTAL
Base	3,695
1 (very important)	1,375
	37.2%
2	816
	22.1%
3	924
	25.0%
4	284
	7.7%
5 (not important)	296
	8.0%

Over 40% of respondents ranked cost as a neutral or not important consideration in determining their choice of transportation option. The finding would suggest that WSDOT has some flexibility in pricing the transportation alternatives, provided that the option allows users to take along a private vehicle.

Question 27: On a scale of 1 to 5, with 1 being very important and 5 being not important, please rate the importance of CONVENIENT 24 HOUR. PARKING 7 DAYS A WEEK in determining your choice of transportation options during bridge closure.

	TOTAL
Base	3,502
1 (very important)	897
	25.6%
2	472
	13.5%
3	529
	15.1%
4	396
	11.3%
5 (not important)	1208
	34.5%

Less than 40% of respondents ranked convenient 24 hour parking, 7 days a week as an important or very important consideration in determining their choice of transportation option. The response underscores the importance respondents place on being able to use their private vehicles for the full trip.

Question 28: On a scale of 1 to 5, with 1 being very important and 5 being not important, please rate the importance of TRANSIT ACCESS TO THE FERRY TERMINAL in determining your choice of transportation options during bridge closure.

	TOTAL
Base	3,498
1 (very important)	907
	25.9%
2	421
	12.0%
3	549
	15.7%
4	365
	10.4%
5 (not important)	1256
	35.9%

Almost 40% of respondents ranked transit access to the ferry terminal as a very important or important consideration in determining their choice of transportation option. This may indicate that many bridge users might consider using public transit during bridge closure. This presents WSDOT and its partner transportation agencies with an excellent opportunity to boost transit ridership. WSDOT should work to ensure that public transit connections, schedules and travel times are optimized during bridge closure to ensure that new riders' first experience with transit is a positive one.

Question 29: On a scale of 1 to 5, with 1 being very important and 5 being not important, please rate the importance of THE ABILITY TO TAKE YOUR CAR ON THE FERRY in determining your choice of transportation options during bridge closure.

	TOTAL
Base	3,739
1 (very important)	2,300
	61.5%
2	531
	14.2%
3	389
	10.4%
4	194
	5.2%
5 (not important)	325
	8.7%

The ability to take one's car on the ferry was survey respondents' most highly valued determinant in selecting their preferred transportation option. Over 75% of respondents ranked this determinant as very important or important. The finding underscores the general perception that the ability to take one's vehicle with them will ensure a timely, convenient and less costly trip than other travel options.

Question 30: What days of the week would you ride either the vehicle or passenger ferry?

	TOTAL
Base	3,094
Monday	1,815
	13.9%
Tuesday	1,816
	13.9%
Wednesday	1,870
	14.3%
Thursday	1912
	14.6%
Friday	2071
	15.8%
Saturday	1923
	14.7%
Sunday	1678
	12.8%

Potential ferry ridership is spread relatively evenly throughout the week. There is a slight increase in Thursday, Friday and Saturday travel. This increase may occur because leisure and discretionary trips (social activity, recreation and tourism, shopping) may be more likely to occur on weekends.

Passenger or Vehicle Ferry Alternatives Questions

Question 31: On weekdays, what time of day would you generally begin your initial trip on either the vehicle or passenger ferry?

	TOTAL
Base	2,852
Between 4:00am and 6:00am	347
	12.2%
Between 6:00am and 9:00am	1,041
	36.5%
Between 9:00am and noon	1,079
	37.8%
Between noon and 3:00pm	172
	6.0%
Between 3:00pm and 6:00pm	116
	4.1%
Between 6:00pm and 9:00pm	76
	2.7%
Between 9:00pm and midnight	14
	0.5%
Between midnight and 4:00am	7
	0.2%

Peak weekday travel start times correspond with the morning commuter rush with almost 50% of trips starting before 9:00 am. The trips beginning between 9:00 am and noon (37.8%, and between noon and 9:00 pm (13.5%) may reflect the large number of discretionary and leisure trips that would be made using this option. It underscores the potential flexibility that many current bridge users may have with trip rescheduling, trip postponement and trip combining during bridge closure

Question 32: On weekdays, what time of day would you generally begin your return trip on either the vehicle or passenger ferry?

	TOTAL
Base	2,797
Between 4:00am and 6:00am	84
	3.0%
Between 6:00am and 9:00am	92
	3.3%
Between 9:00am and noon	101
	3.6%
Between noon and 3:00pm	339
	12.1%
Between 3:00pm and 6:00pm	1360
	48.6%
Between 6:00pm and 9:00pm	636
	22.7%
Between 9:00pm and midnight	172
	6.1%
Between midnight and 4:00am	13
	0.5%

Peak weekday return trip start times again correspond with the evening commuter rush with 71% of trips starting between 3:00 pm and 9:00 pm. A statistically significant 29% of return trips are made during shoulder and off-peak travel times between 6:00 pm and 4:00 am. This percentage may reflect the large number of discretionary trips that would be made using this option. It underscores the potential flexibility that many current bridge users may have with trip rescheduling, trip postponement and trip combining during bridge closure.

Question 33: On weekends, what time of day would you generally begin your initial trip on either the vehicle or passenger ferry?

1 3 3	TOTAL
_	
Base	2,707
Between 4:00am and 6:00am	85
	3.1%
Between 6:00am and 9:00am	817
	30.2%
Between 9:00am and noon	1,455
	53.7%
Between noon and 3:00pm	203
	7.5%
Between 3:00pm and 6:00pm	86
	3.2%
Between 6:00pm and 9:00pm	45
	1.7%
Between 9:00pm and midnight	13
	0.5%
Between midnight and 4:00am	3
	0.1%

In comparison to weekday travel (question 31), 17% more respondents begin their travel between 9:00am and 6:00pm. The later weekend trip start times could indicate that more weekend trips are made for discretionary or leisure-related trips.

Question 34: On weekends, what time of day would you generally begin your return trip on either the vehicle or passenger ferry?

	TOTAL
Base	2,738
Between 4:00am and 6:00am	22
	0.8%
Between 6:00am and 9:00am	60
	2.2%
Between 9:00am and noon	110
	4.0%
Between noon and 3:00pm	237
	8.7%
Between 3:00pm and 6:00pm	822
	30.0%
Between 6:00pm and 9:00pm	1057
	38.6%
Between 9:00pm and midnight	392
	14.3%
Between midnight and 4:00am	38
	1.4%

Eighty-four percent of respondents would begin their return trip between 3:00 pm and midnight.

Question 35: How would you travel to the ferry terminal or terminal parking area?

	TOTAL
Base	3,155
Private Automobile	2,930
	92.9%
Car pool or van pool	44
	1.4%
Transit	34
	1.1%
Commercial vehicle	77
	2.4%
Drop off/pick-up at the terminal	34
shuttle area	1.1%
Other	36
	1.2%

Almost 93% of respondents would travel to the ferry terminal or terminal parking area by private automobile. The finding underscores respondents' desire to be able to take their private vehicles with them on trips. If a passenger-only ferry option is implemented, it may be a challenge to accommodate the large numbers of people wanting to park their vehicles at the terminal. Carpools and vanpools, transit and drop-off/pick up at the terminal should to be encouraged.

Question 36: Would you bring your vehicle on the ferry?

	TOTAL
Base	3,164
Yes	2,762
	87.30%
No	402
	12.70%

Almost 90% of respondents would bring their vehicle on the ferry. The response again underscores the value bridge users place on being able to take their private vehicles with them for all trips.

Driving Around Hood Canal Questions

Question 37: What days of the week would you drive around Hood Canal?

	TOTAL
Base	1,750
Monday	812
	12.7%
Tuesday	806
	12.6%
Wednesday	833
	13.0%
Thursday	845
	13.2%
Friday	1026
	16.0%
Saturday	1090
	17.0%
Sunday	982
	15.4%

As with question 30, potential trip days are spread relatively evenly throughout the week. There is a slight increase in Friday, Saturday and Sunday trips which corresponds to the larger number of weekend leisure-related and discretionary trips currently made on the Hood Canal Bridge.

Question 38: On weekdays, what time of day would you generally begin your initial trip?

	TOTAL
Base	1,584
Between 4:00am and 6:00am	229
	14.5%
Between 6:00am and 9:00am	672
	42.4%
Between 9:00am and noon	485
	30.6%
Between noon and 3:00pm	69
	4.4%
Between 3:00pm and 6:00pm	77
	4.9%
Between 6:00pm and 9:00pm	38
	2.4%
Between 9:00pm and midnight	2
	0.1%
Between midnight and 4:00am	12
	0.8%

Peak weekday travel start times correspond with the morning commuter rush hour with almost 57% of trips starting before 9:00 am. When compared to potential vehicle and passenger ferry options, 17% more trips would begin before 9:00 am. This finding may reflect the longer commute time associated with driving around Hood Canal. With one-way drive times taking between 2 and 5 hours (depending on the trip starting point, destination and traffic volumes), fewer trip starts would be made later in the day to avoid long and tiring nighttime drives.

Question 39: On weekdays, what time of day would you generally begin your return trip?

	TOTAL
Base	1,521
Between 4:00am and 6:00am	27
	1.8%
Between 6:00am and 9:00am	63
	4.1%
Between 9:00am and noon	103
	6.8%
Between noon and 3:00pm	224
	14.7%
Between 3:00pm and 6:00pm	663
	43.6%
Between 6:00pm and 9:00pm	368
	24.2%
Between 9:00pm and midnight	68
	4.5%
Between midnight and 4:00am	5
	0.3%

Over 80% of weekday return trips would start between noon and 9:00 pm. The longer drive times associated with this option are reflected in the earlier return trip start times (15% would start between noon and 3:00 pm). Those driving around Hood Canal would tend to begin their return trip earlier than those using the ferry option.

Question 40: On weekends, what time of day would you generally begin your initial trip?

	3
	TOTAL
Base	1,506
_	
Between 4:00am and 6:00am	79
	5.2%
Between 6:00am and 9:00am	634
	42.1%
Between 9:00am and noon	615
	40.8%
Between noon and 3:00pm	91
	6.0%
Between 3:00pm and 6:00pm	51
	3.4%
Between 6:00pm and 9:00pm	27
	1.8%
Between 9:00pm and midnight	2
	0.1%
Between midnight and 4:00am	7
	0.5%

Again, the longer drive time associated with this option may be reflected in the respondents' choice of weekend trip start times. Eighty-three percent of respondents would begin their initial trip between 6:00 am and noon.

Question 41: On weekends, what time of day would you generally begin your return trip?

	TOTAL
Base	1,516
Between 4:00am and 6:00am	13
	0.9%
Between 6:00am and 9:00am	77
	5.1%
Between 9:00am and noon	120
	7.9%
Between noon and 3:00pm	202
	13.3%
Between 3:00pm and 6:00pm	532
	35.1%
Between 6:00pm and 9:00pm	439
	29.0%
Between 9:00pm and midnight	114
	7.5%
Between midnight and 4:00am	19
	1.3%

Seventy-seven percent of weekend return trips start between noon and 9:00 pm. The times correspond fairly closely with weekday travel.

Special Needs Questions

Question 42: Do you have a disability that limits you mobility?

	TOTAL
Base	3,681
Yes	412
	11.20%
No	3,269
	88.80%

About 11% of respondents report that they have disabilities that limit their mobility. This corresponds with U.S. Census data that shows the national average to be 10%. WSDOT will have to plan to accommodate this group if any of temporary facilities and services are developed.

Question 43: If you answered yes to the last question, please indicate the type of assistive device that you use.

	TOTAL
Base	479
Cane	130
	27.1%
Walker	31
	6.5%
Crutches	10
	2.1%
Manual Wheelchair	24
	5.0%
Electric Wheelchair	12
	2.5%
Other	41
	8.6%
Don't use an assistive device	231
	48.2%

Although it is unlikely that WSDOT will be able to develop full ADA compliance for temporary services and facilities developed for the 6 to 8-week bridge closure, measures should be taken to accommodate individuals with mobility disabilities. For instance, for the 35.7% of respondents who are able to walk using assistive devices (cane, crutches, walker), wheelchairs and/or other assistance may have to be provided during ferry boarding and disembarking if facilities are challenging. Accessible restrooms will also be needed.